

Appendix F

Site Management and Monitoring Plan Umpqua River, Oregon

April 2009



**US Army Corps
of Engineers** ®
Portland District

Final

Site Management/Monitoring Plan for the Umpqua River Ocean Dredged Material Disposal Sites, Oregon

Section 102 of the Marine Protection, Research and Sanctuaries Act
Ocean Dredge Material Disposal (ODMD) Sites
April 2009

ABSTRACT

This Site Management/Monitoring Plan (SMMP) has been prepared jointly by the Environmental Protection Agency (EPA), Region 10, and the U.S. Army Corps of Engineers (USACE), Portland District, and describes management and monitoring requirements for EPA-designated ODMD Sites located offshore from the Umpqua River, Oregon. Periodic review and updating of the SMMP will occur no less than 10 years from the date this SMMP is effective. All permits or other authorizations to use Umpqua River ODMD Sites shall be conditioned as necessary to assure consistency with this SMMP.

Umpqua River ODMD Sites Site Management/Monitoring Plan

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Introduction

This Site Management/Monitoring Plan (SMMP) was prepared jointly by the U.S. Environmental Protection Agency, Region 10 (EPA), and U.S. Army Corps of Engineers, Portland District (USACE), and describes management and monitoring requirements for the two EPA-designated Sites, a North Site and a South Site, located offshore from the Umpqua River, Oregon (figure 1). The SMMP becomes effective upon the effective date of the designation of the Sites and supersedes and replaces any previous SMMP for this location.

It is the responsibility of the EPA and USACE to manage and monitor dredge material disposal sites designated by EPA pursuant to Section 102 of the Marine Protection, Research, and Sanctuaries Act (MPRSA). EPA has final authority over site management. SMMP provisions establish requirements for all dredged material disposal activities at the Sites. All Section 103 ocean disposal permits or evaluations will be conditioned as necessary to assure consistency with the SMMP. The USACE shall ensure that use of the Site is consistent with this SMMP.

Guidance for the preparation of SMMPs for disposal sites in accordance with the MPRSA, as amended, is provided in the joint EPA/USACE Guidance Document for *Development of Site Management Plans for Ocean Dredged Material Disposal Sites* (USACE/EPA 1996). This guidance document lays out a recommended framework for site management plan development and content.

Each SMMP is required, pursuant to the MPRSA, to include: a baseline assessment of conditions at the site; a program for monitoring the site; special management conditions or practices to be implemented at each site that are necessary for protection of the environment; consideration of the quantity of material to be disposed of at the site, and the presence, nature, and bioavailability of the contaminants in the material; consideration of the anticipated use of the site over the long term, including the anticipated closure date for the site, if applicable, and any need for management of the site after closure; and a schedule for review and revision of the plan which must be no less frequently than 10 years after adoption of the plan and every 10 years thereafter.

Specific management of designated sites involves regulating the times of use, the quantity and the physical/chemical characteristics of dredged material that is dumped at the sites; and establishing disposal controls, conditions, and requirements to avoid and minimize potential impacts to the marine environment. Appropriate management is aimed at assuring that disposal activities comply with permit requirements, site management objectives and conditions, and do not unreasonably degrade or endanger human health, welfare, the marine environment or economic potentialities. Monitoring the site and adjacent environs is a critical component of management to verify compliance with requirements, objectives, and conditions to ensure that unanticipated or significantly adverse effects are not occurring from past or continued use of the disposal sites, and to ensure that permit terms are met.

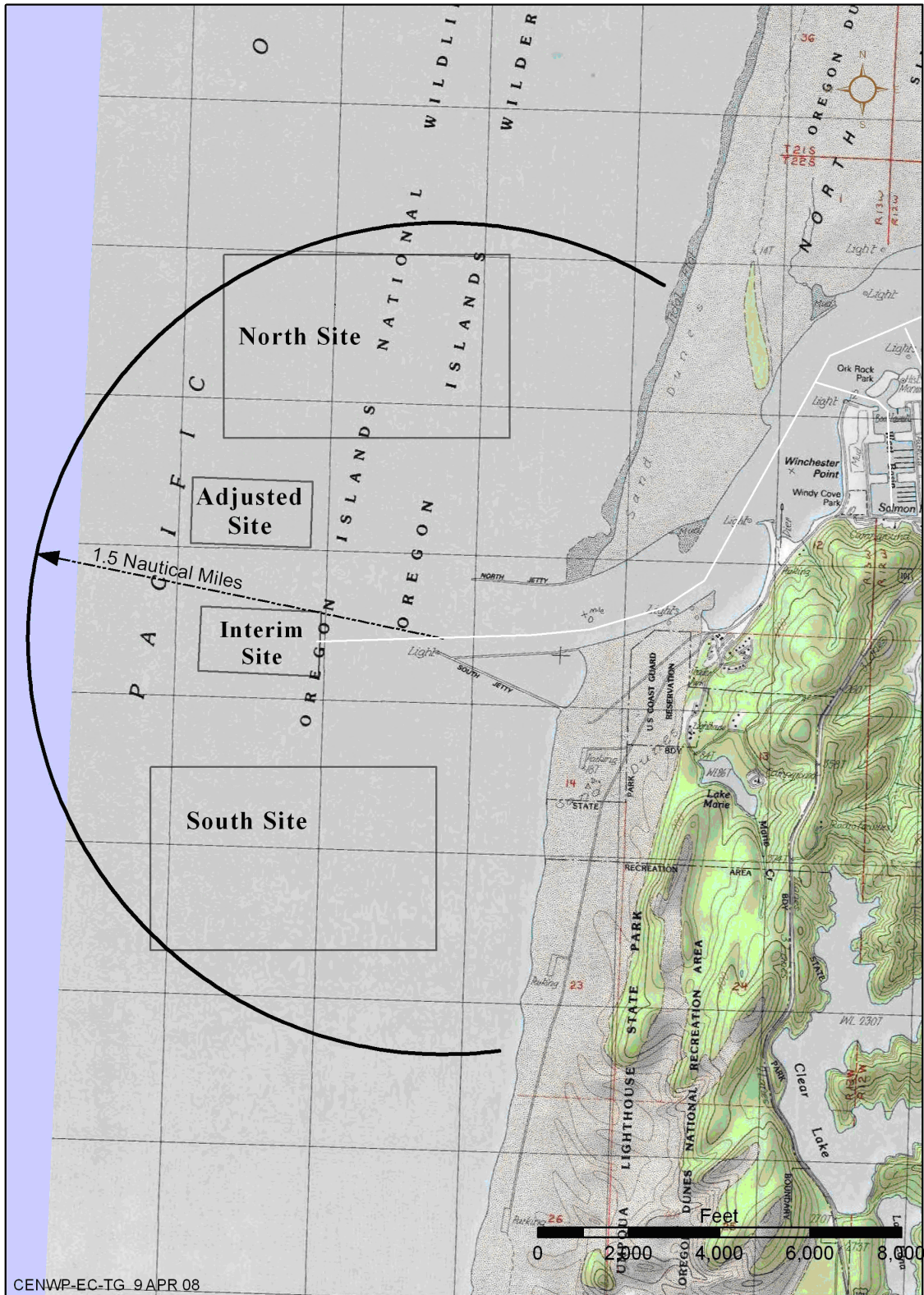


Figure 1 : Umpqua River ODMD Sites and Vicinity.

Site Management Roles and Responsibilities

The designation of ocean dredged material disposal sites and the issuance of permits for such sites are components of the federal, non-delegable, ocean dumping program. Site designation and management are federal responsibilities. Owing to the interactive nature of regulating ocean disposal of dredged material, the functional management of ocean dredged material disposal sites along the coast of Oregon is shared between EPA, Region 10, and the USACE, Portland District. The EPA and USACE will routinely consult on all decisions regarding site use and management. The primary mechanism for pre-disposal consultation will be the annual Umpqua River ODMD Sites monitoring update prepared by the Portland District.

The EPA may condition, terminate or restrict site use with cause. Region 10 is responsible for ocean disposal in ocean waters off the States of Alaska, Washington, and Oregon, which includes the Umpqua River ODMD Sites addressed in this SMMP.

The USACE is expected to be the primary user of the ODMD Sites for dredged material from federal navigation projects. The USACE also issues the permits for transportation of dredged material for the purpose of ocean disposal, after consultation with and concurrence from the EPA in compliance with these criteria. The USACE is responsible for meeting substantive permit requirements for its own use of these Sites and EPA concurs on site use by the USACE.

Baseline Definition

Section 102(c)(3)(A) of the MPRSA requires that the SMMP include a baseline assessment of conditions at the Sites. The record for the Pacific Ocean off the Umpqua River includes over thirty years of studies and surveys which are pertinent to dredged material management. Assessments of physical, chemical and biological characteristics of the section of the north Pacific Ocean encompassing the Umpqua River ODMD Sites is described in two EPA environmental studies (a 1991 draft environmental impact statement and a 2008 environmental assessment), for ODMD site designation, technical studies, and annual monitoring surveys. The bathymetric baseline for the Umpqua River ODMD Sites was established in 2008. There is no rare, unique, or critical habitat at or in the vicinity of the ODMD Sites. The Sites are situated within sight of land in an open and dynamic ocean environment. The seafloor is characterized as relatively uniform and featureless with highly active shifting sands grading westward into deeper water. The Sites have not been used for disposal of dredged material at any the time before designation.

In general, Pacific Northwest ODMD sites are dispersive. However, mounds (and potential navigation hazards) develop when more material is placed in discrete locations within sites than the ocean has capability to disperse between disposal events. Current understanding and experience indicate generally slow dispersion from mounds takes place at ocean depths greater than 18 meters (approximately 60 feet), with dispersion steadily decreasing with increasing depth. Much higher dispersion rates have been observed within nearshore areas with depths shallower than 18 meters.

Site Definitions and Description

Disposal Site Definitions

For the purposes of management and monitoring of designated sites the following definitions are applicable:

Disposal Site: The sea bottom and overlying water column that is described in the applicable *Federal Register* Final Rule designating the individual site. A disposal site can consist of a placement area, appropriate drop zones(s), and a buffer (if applicable).

Placement Area (also can be called disposal area): The area of the sea bottom that will be immediately occupied by disposed dredged material released at the water surface (1) on an annual use basis, and/or (2) over the anticipated life of the disposal site. Generally, the placement area for dispersive sites is designated and managed on a seasonal or annual cycle. Material disposed and accumulating in the placement area during the active disposal season is expected to be transported out of the site and redistributed by natural forces (e.g., tides, currents, waves) leaving the placement area with near its original capacity. The placement area for non-dispersive sites are designed and managed for an ultimate accumulated volume capacity or for a specific number of years. Material disposed and accumulating in non-dispersive placement areas is not expected to be transported outside the boundaries of the disposal site, although natural forces may redistribute placed material on-site immediately or over several years.

Drop Zone (also can be called target zone, release zone): A drop zone is a defined area at the water surface within the placement area and within which dredged material disposal may occur. Drop zones are a management tool employed for the purpose of controlling where material disposed at the surface will fall and accumulate on the bottom. Drop zones are typically smaller than the placement area or are offset within the placement area to account for the spread of material as it descends through the water column and impacts on the bottom. The Drop Zone may be further subdivided into “cells” for more specific placement control.

Disposal Site History

An EPA designated Interim ODMD Site, located approximately one-half mile from the entrance to the Umpqua River, was initially used for disposal after its Interim designation in 1977 (Figure 1). However, due to a later realignment of the entrance channel, the approaches to the Umpqua River lay over the Interim Site. Mounding was observed at this Site in 1988, which raised the concern of potential problems for navigation. The Portland District recommended a new Adjusted Site in 1989, approximately 2,800 feet north of the Interim Site, for final site designation by EPA.

The Portland District stopped disposal at the Interim Site in October 1991. EPA has since repealed regulations under MPRSA regarding interim ocean dumping sites. (See 73 FR 74983, December 2008). The Portland District used the Adjusted Site under its authority pursuant to Section 103 of the MPRSA until the end of the 2008 dredging season, disposing over 2 million cubic yards there. The Adjusted Site also experienced mounding and was not considered suitable for long-term use. Site use under Section 103 expired at the end of the 2008 dredging season.

Disposal Site Descriptions

Two new ODMD Sites are designated by EPA, Region 10. The North ODMD Site is approximately 4,000 feet northwest of the entrance to the mouth of the Umpqua River and the South ODMD Site is approximately 4,000 feet southwest from the entrance to the Umpqua River (see Figure 1). The lineal dimensions, boundary coordinates, and water depth variation for the proposed ODMD Sites are:

lineal dimension = 6,300 feet x 4,000 feet;

axis azimuth = 270°;

average depth = 75 feet;

elevation variation = -30 feet to -120 feet Mean Lower Low Water (MLLW). The corner coordinates (NAD 83) of the Sites are:

North Site

43° 41' 23.09"N 124° 14' 20.28"W
43° 41' 25.86"N 124° 12' 54.61"W
43° 40' 43.62"N 124° 14' 17.85"W
43° 40' 46.37"N 124° 12' 52.74"W

South Site

43° 39' 32.31"N 124° 14' 35.60"W
43° 39' 35.23"N 124° 13' 11.01"W
43° 38' 53.08"N 124° 14' 32.94"W
43° 38' 55.82"N 124° 13' 08.36"W

Components of the Disposal Sites: The Umpqua River ODMD Sites each contain a drop zone set back 500' from the site boundaries. Disposal must occur within the drop zone. There will be no buffer zone.

Disposal Capacity: Based on sediment fate modeling conducted in 1998, each Site is expected to have the capacity to receive approximately 188,000 cy of dredged material per year for 20 years (or 3.8 million cubic yards (mcy) each) without impacting the present wave climate.

The Sites are primarily intended to receive suitable dredged material from the USACE Umpqua River navigation project, other local USACE projects, and appropriately permitted dredged material from non-USACE projects. All dredged material to be disposed of in the ocean including Corps' permits is subject to the EPA site management requirements in this SMMP.

Anticipated Site Use

Section 102(c)(3)(E) of the MPRSA requires that the SMMP include consideration of the anticipated use of the site. Primary and regular use of the Umpqua River ODMD Sites is expected by the Portland District, Corps of Engineers, for maintenance material removed from the federal navigation project. A summary of the Umpqua River federal project is included in this SMMP. Recent maintenance volumes dredged by the Corps from the Umpqua River navigation channel and entrance channel have averaged 104,000 cy with a range from 246,200 cy in 2002 to 9,400 cy in 2005. Only material from Corps federal projects has been placed in the ocean. It is expected that the ODMD Sites may be used in the future for disposal of material dredged by other public or private entities (e.g., the U.S. Coast Guard or Port of Umpqua) in accordance with Section 103 of the MPRSA. These disposals would require Section 103 permits (which could be multiple-year authorizations up to 7 years) from the Regulatory Branch of the USACE upon EPA concurrence. Individual permits are typically public noticed and require other federal consultations (e.g., Endangered Species Act, Magnuson-Stevens Act) and authorizations.

Umpqua River Navigation Project Description

The Umpqua River federal navigation project is located at the community of Winchester Bay and near the City of Reedsport in Douglas County, Oregon. The authorized project includes two jetties at the entrance. The north jetty is 8,000-feet long and the south jetty is 4,200-feet long. The authorized channel at the entrance is 26-feet deep and 400-feet wide. The river channel, which is 22-feet deep and 200-feet wide, extends from the entrance upstream to Reedsport at RM 11.4. There are also several adjacent channels, boat basins and turning basins. A channel and turning basin at Gardiner is authorized but is not currently maintained.

The Umpqua River federal navigation project was authorized for the following purposes:

- Decrease waiting times for vessels crossing the bar;
- Provide a protected entrance for tugs, barges, and commercial fishing vessels;
- Provide mooring facilities for small boats which take advantage of project facilities;
- Permit barge and small boat traffic upstream to RM 11.7;
- Provide a harbor of refuge; and
- Maintain stable channel depths throughout the year.

Site Management Objectives

The primary objective of this SMMP is to provide for the safe and efficient disposal of dredged material at the Umpqua River ODMD Sites while minimizing adverse impacts on the environment, including, but not limited to, coastal and marine resources, to the greatest extent practicable. General site management objectives for accomplishing this primary objective are:

1. Avoid the creation of persistent mounds;
2. Minimize impacts on coastal sediment circulation by keeping sediment in the

- littoral zone;
3. Minimize long-term adverse effects to marine resources;
 4. Minimize interference with other uses of the ocean;
 5. Maintain safe navigation and commerce;
 6. Promote safe and efficient dredge operations; and
 7. Document disposal and monitoring activities at the ODMD Sites.

All these general site management objectives are applicable to the Sites and additional specific management restriction may be imposed as necessary. Specific individual site objectives and restrictions will be periodically reassessed and/or revised in the future.

To minimize the creation and persistence of mounds, the sites will be managed to maximize the dispersal capability of the shallower portions of the disposal sites. Generally, there will be a preference for the use of areas shallower than -60 ft. MLLW if capacity remains in these locations.

- Site Management may include establishing cells along the nearshore portion of each Site to ensure uniform placement, minimize the accumulation of material, maximize dispersal out of the site, and avoid excessive or persistent mounding. Dump plans will be developed and may be adjusted during each disposal season to utilize different portions or cells within the shallower portion of the Sites to achieve uniform placement and minimize mounding.
- Disposal may be alternated as necessary between the two Sites to allow for maximum dispersal and minimal impact. The North Site is anticipated to receive more frequent use initially but this may change as conditions warrant.

Site Monitoring and Special Studies

Site monitoring is a key component of site management. The main purpose of a disposal site monitoring program is to determine compliance with site use requirements or conditions and to determine whether dredged material site management practices, including disposal operations, at the site need to be changed to avoid unreasonable degradation or endangerment of human health or welfare or the marine environment. Monitoring of these activities is referred to as “Routine Monitoring” throughout the SMMP. Routine monitoring events may be triggered annually or at some other time interval (e.g., five years), when a set volume of material has been disposed at the Site(s), or when a combination of volume and chronology provide a logical trigger. Special Studies will be undertaken as necessary to address specific questions or issues that are not covered by routine monitoring events. Such situations could include follow-up after an accident (e.g., spill of a material) or in advance of use of a new type of equipment, or a different type of dredged material (e.g., rocks) at the Site(s). The results of these Special Studies are intended to refine future management objectives and practices, modify routine monitoring requirements or reset Baseline conditions.

Potential decision outcomes resulting from routine monitoring of disposal at one or both of the ODMD Sites include the following:

No Change:

No Change *Required* (e.g., routine monitoring reveals no cause for concern; disposal and monitoring continue as planned)

No Change *Possible* (e.g., one-time event or accident; while there may be no change in disposal operations, other actions may be appropriate)

Additional Information Required:

Adjust routine monitoring (e.g., go to a higher intensity tier)
Special Study

Operational Change Required:

Scheduling (e.g., adjust time periods or rates of disposal)

Adjust Placement of Material within Site (e.g., place material in a different Drop Zone or in a different manner)

Restrict Type or Quantity of Material Placed

Change Sites:

Relocate disposal activities from one Site to another site for a few days to a few weeks; follow-up with monitoring to determine if additional attention is warranted.

Discontinue Disposal Site Use:

Cease Disposal--Short-Term (e.g., 1 season) (A known temporary condition takes place which merits discontinued use for a short period of time; follow-up with monitoring to determine if additional attention warranted).

Cease Disposal--Long-Term. Typically this would occur when routine monitoring or a Special Study confirms an unacceptable condition persists. This would require site modification or identification and designation of a new site(s).

Umpqua River ODMD Sites - Routine Monitoring

Routine monitoring will generally consist of annual bathymetric monitoring of the dredged material disposed at the Sites, typically in the spring. The first annual bathymetry monitoring will be compared to the baseline survey from spring 2009. In subsequent years, bathymetry monitoring will be compared to the previous year's survey. More intensive monitoring is employed when annual bathymetry or direct field observation reveal persistent mounding. Only the level of monitoring sufficient to address the specific management questions at hand would be undertaken.

The following Specific Monitoring Objectives are identified for the Umpqua River ODMD Sites:

- Ensure that dredged material is being placed as required by this SMMP and the provisions as codified in the Federal Register for the Sites;
- Ensure that the dredged material is behaving as predicted during placement (e.g., monitoring v. modeling);
- Ensure that placement of dredged material does not create persistent and adverse wave-generating mounds (principally a shallow water concern);
- Assess the significance of potential impacts of disposal operations on the public safety and resources or resource use; and
- Verify that material is moving out of the Sites over time, as predicted, providing long-term capacity without adverse effects.

For management purposes, routine monitoring will concentrate on how the disposed dredged material is behaving within and in the vicinity of the Sites, and determining how to distribute material. Bathymetric surveys of the Sites will be conducted annually. The number and length of transects required for annual assessment will be sufficient to encompass the area impacted by dredge material disposal. The survey area will extend at least one survey transect beyond the area impacted. Bathymetric surveys will be used to monitor the disposal mound(s) to assist in verification of material placement, to monitor bathymetric changes and trends and to ensure that the site capacity is not exceeded (eg., that the dredged material footprint does not exceed the site boundaries). The area where material is disposed will be surveyed to assess the potential capacity of the sites for the next dredging season and for future years (e.g., determining how much of the previous year's disposed material has dispersed from the Sites). Annual bathymetric profiles are evaluated for cumulative changes based upon comparison of the Baseline and most complete surveys available with the then-current survey results. Bathymetric surveys and difference plots will be provided to EPA as part of the annual assessment report.

If mound heights appear to be increasing over time, more intensive monitoring and/or management action will be taken. Such action may consist of restricting placement to

only certain portions of the ODMD Sites or some other similar disposal or management action. If placement restriction or similar management actions do not sufficiently control mound height, the Site(s) or portions thereof, may be temporarily, or the instance of extreme mounding, permanently closed to use.

Monitoring the use of the ODMD Sites and surrounding area for biological resources, and confirmatory characterization of sediment, physical, biological, and chemical studies as deemed to be necessary are expected to occur on an approximate 7 to 9 year schedule, with the first monitoring event to occur by 2016. This schedule can be adjusted as necessary (see below Section on Adaptive Management and Monitoring). It is anticipated that such reassessments will be documented as stand-alone reports to directly support monitoring efforts at the Umpqua ODMD Sites.

Adaptive Management and Monitoring

The Sites will be adaptively managed to avoid unreasonable degradation or endangerment of human health or welfare or the marine environment. Site management and monitoring will be adjusted at any time as conditions warrant, and if EPA has reason to believe the marine environment at the Sites may be at an increased risk of degradation, additional testing may be required, and site use may be restricted or terminated while assessment is underway. The Corps and EPA may also from time to time, discuss ODMD Site monitoring with Federal and State agencies.

Special Studies

Special Studies are non-routine studies of specified duration that are intended to address specific questions or issues that are not covered by routine monitoring events or that arise from routine monitoring. The obvious need for a Special Study would be following an accident or spill. However, other circumstances may warrant special studies. Under such circumstances, the EPA and USACE would mutually scope and conduct appropriate studies to determine the effect of the incident on the Sites and to ascertain whether specific contingency or possible enforcement action would be necessary. The results of any Special Studies would be used to refine future management objectives and practices, modify routine monitoring requirements, or reset baseline conditions. Depending on the objective of the study, technical assistance or advice would be sought from other public agencies, and entities. It is anticipated that special studies would be coordinated with the Northwestern Regional Dredging Team.

Restrictions and Requirements

- Only clean dredged material can be placed into the ocean under current statutes and regulations. Sediment suitability must be documented prior to disposal at the Sites following procedures approved by the Regional Sediment Evaluation Team;
- The EPA may condition, terminate or restrict site use with cause.

Annual Summary Assessment Requirement

The operational mechanism for use and monitoring of the Sites on an annual basis as well as management decision-making will be the annual summary report updates. The annual summary report for a given dredging year is based on the results of the previous year's monitoring, the pre-dredging/disposal hydrographic surveys (typically conducted in the spring), and dredge operating parameters. The summary will focus on any operational adjustments which should be implemented. It is expected that the primary user of the ODMD Sites will be the USACE for material dredged from federal projects. The summary will identify the capacities of the ODMD Sites, expected volumes to be disposed, dredging and disposal techniques, timings and locations, routine monitoring or special studies, and other considerations drawing on the then-current site use conditions and SMMP. The USACE, either as user of the Sites or as permitting authority, will take the lead to draft the summary and provide it to EPA. Once reviewed by EPA, the summary will constitute the template for that year's disposal. EPA recognizes that the summary cannot anticipate every operational situation and that day-to-day flexibility in dredging and disposal decisions will be necessary. However, the user will make every effort to consult with EPA and seek their concurrence before changes are initiated, for example, decisions to increase the spacing between the dumping positions, to shift disposal operations to different portions of the Site(s), to redistribute material at a Site, or to make other significant changes in site use or management.

Record-Keeping and Reporting Requirements

Daily records are required of dredging and disposal activities, indicating where material was dredged and where and how material was disposed. Also required to be recorded are start and endpoint coordinates for each load disposed. An annual summary report of quantities dredged and disposed at each of the Sites will be prepared and provided to EPA.

Data from any routine monitoring or special studies will be compiled and submitted to the EPA (ATTN: Region 10, Ocean Dumping Coordinator). These results will be evaluated by EPA and the USACE. EPA has final authority over site management decisions. In addition, the USACE is expected to notify EPA 15 days prior to the beginning of a dredging cycle or project disposal. Holders of Section 103 permits who have received EPA concurrence for use, will notify EPA not less than 20 days prior to disposing at the Umpqua River ODMD Sites.

Inspection and Surveillance Provisions

EPA will typically utilize the inspection and surveillance capabilities of the USACE and the U.S. Coast Guard (USCG); however, EPA may choose to implement its own inspection and surveillance requirements using EPA personnel and/or contractors. It is expected that EPA may coordinate with the USACE on any special inspections and surveillance.

Special Management Conditions or Practices

The following Special Management Conditions will be implemented at the Umpqua River ODMD Sites:

Placement Strategy

The placement strategy has a large influence on the consequences of disposal in any site. Placement strategies vary, ranging from individual dumps to the long-term distribution of material. Both EPA and USACE policy establishes a preference for beneficial use of dredged material when practical. The intermediate and particularly the shallow nearshore portions of the North and South Sites are judged to have greater potential to provide a positive benefit as dispersion of sediments is inshore toward the beaches as well as along existing bathymetric contours. Accordingly, any sandy material going to the ocean must preferentially use the nearshore area. Exceptions to this requirement may include: (1) material or equipment incompatibility; (2) weather or navigation safety (e.g., use of multiple dredges) conflicts; (3) expected volumes exceed annual capacity in any year; (4) conflict with non-federal conditions; and/or (5) specific restriction or direction by EPA.

A Uniform Placement Strategy will be applied to both Sites; however, the specific manner in which this strategy will be applied at each Site may differ due to the greater dispersive or less-dispersive characteristics of different depth zones. Application of “uniform placement” is most critical to each annual disposal series, and particularly for the nearshore zone. Application of “uniform placement” is an expected outcome over the long-term and multiple-year disposals, rather than a placement regime to be achieved during each dredging season, particularly in the offshore zones where dispersal is very slow.

Equipment Considerations

The type of dredge used for disposal influences the dimensions of the individual and cumulative dump mound. No specific disposal technique is required at the Umpqua River ODMD Sites. For the hopper dredges that commonly work at Umpqua River, such as the USACE’s multiple bottom-door hopper dredge Yaquina, each load would produce a thinner deposit than the split-hull contract hopper dredges at any given water depth. Material disposed from a split-hull barge is typically more consolidated than material disposed from a multiple bottom-door hopper dredge. Only hopper dredges can be used at the Umpqua River entrance channel due to waves and currents. Clam shell dredges with barges can be used at estuary sites such as Winchester Bay and harbor.

Equipment Requirements

Hopper dredges or clamshell and barge operations could include USACE and private contract dredges. All such operations are required to meet all USCG requirements for

safety. They are also required to use modern global positioning equipment capable of fixing their location within plus or minus 3 feet to ensure that material is placed within the designated disposal Sites.

Quantity, Seasonal and Weather and Environmental Restrictions

Dredging and disposal actions are generally concurrent activities. Quantities placed at the Sites will vary year-to-year depending on shoaling of the project and will be monitored. Disposal volumes and placement will be closely monitored and documented, to verify uniform placement, and to assess dispersive capability. Seasonal restrictions due to adverse sea and weather conditions limit dredging and disposal to a period typically from June through October. Even during the dredging season, storm events can restrict disposal events. Environmental restrictions may be imposed on dredging and / or disposal. In the event monitoring results reveal the need for additional time restrictions, disposal activities will be scheduled so as to avoid unacceptable adverse impacts.

Debris Removal Provisions

Debris is material that could cause interference with particular uses of the ocean. Floatable debris comprises material such as logs that could cause navigation hazards or solids, such as plastic or wood chunks that could foul beaches. Non-floatable debris comprises material that could reasonably be expected to cause conflicts with bottom-net or trawl fishing. As a general rule, non-floatable, non-sediment materials that would pass through a 24-inch x 24-inch mesh is not considered debris if it is dredged as part of the sediment matrix.

The USACE or EPA may make dredging or disposal area inspections to ensure that the contractor is in compliance with the approved operating plans, and that debris is removed prior to disposal at the ODMD Sites. The need for such a requirement will be assessed during the planning or permitting process. Floatable debris must be either removed at the dredging area or picked out of the water at the disposal area. Sediments, which contain debris that is not easily removed, may require screening through a 24-inch x 24-inch mesh. The mesh must be periodically cleaned and the debris disposed of according to the approved dredging and disposal plan. Hopper and pipeline dredges are incapable of picking up large debris.

Disposal of debris at ODMD Sites is prohibited. Typically the planning or permitting process assesses the potential risks of any debris that could be encountered during dredging. Dredging contractors and USACE dredge captains are required to maintain a record of the handling of debris encountered during dredging and disposal. Compliance inspectors may review these records. Copies of these records may be required as part of annual reporting.

Quantity of Material and Presence of Contamination

Section 102(c)(3)(D) of the MPRSA requires that management plans include consideration of the quantity of the material to be disposed of at a disposal site, and the presence, nature, and bioavailability of the contaminants in the material.

Portions of the dredged material disposed at the Sites are expected to move across the boundaries of the Umpqua River ODMD Sites after disposal. The rate and direction of movement of disposed dredge material across the ODMD Site boundaries is determined by physical transport mechanisms. Depending on these transport mechanisms and the nature of the material, transport may be rapid and continuous, or may occur only during episodic events, such as storms or seasonal changes in transport mechanisms.

Only clean dredged material can be placed into the ocean under current statutes and regulations; there is no need for further restriction on material suitability. Material suitability must be documented prior to disposal at the Site. This is typically completed as part of regulatory permitting (non-Corps) or the Corps' substantive review process. All sediments to be disposed at the ODMD Sites will first be evaluated according to then-current requirements of the MPRSA, national guidance, and local/regional manual and determined to be suitable for ocean disposal. Representatives of the USACE Portland District, EPA Region 10, other federal agencies and the States of Oregon and Washington comprise the Regional Sediment Evaluation Team (RSET), which has developed a comprehensive Sediment Evaluation Framework (SEF - 2006) for the Pacific Northwest under the direction of the Northwestern Regional Dredging Team (RDT). It is expected that the interagency RDT through the local Portland Project Review Group (PRG) will be used to evaluate the suitability of sediments using the SEF. The current and future SEF evaluation procedures are designed to be consistent with the MPRSA.

Characterization records of dredged material approved to be disposed at any portion of the Umpqua River ODMD Sites will typically be retained by the USACE, either as the entity responsible for the dredging and disposal (Planning and/or O&M program) or the permitting agency (regulatory permits). USACE O&M projects sediment evaluation report are to be posted upon the web at <https://www.nwp.usace.army.mil/ec/dme.asp>. Ultimately, all sediment data will be routinely entered into the Northwestern RDT sediment database where it would be publicly available. Secondary copies of characterizations will be retained by EPA.

Site Management Plan Review and Revision

Section 102(c)(3)(F) of the MPRSA requires that the management plan include a schedule for review and revision of the plan. Revisions to the SMMP will be made as determined necessary by EPA. Should the results of monitoring or special studies indicate that the continued use of any ODMD Sites would lead to unacceptable effects, this SMMP will be modified as necessary to mitigate such effects. At least every 10 years after this SMMP is finalized and throughout the life of the Site, EPA is required to conduct a substantive review of the SMMP. These reviews will involve coordination with other agencies, technical experts, and stakeholders.

Literature Cited

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